



Income and Racial Disparities in the Undercount in the 2000 Presidential Election

Prepared for Rep. Calvin M. Dooley

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EXECUTIVE SUMMARY

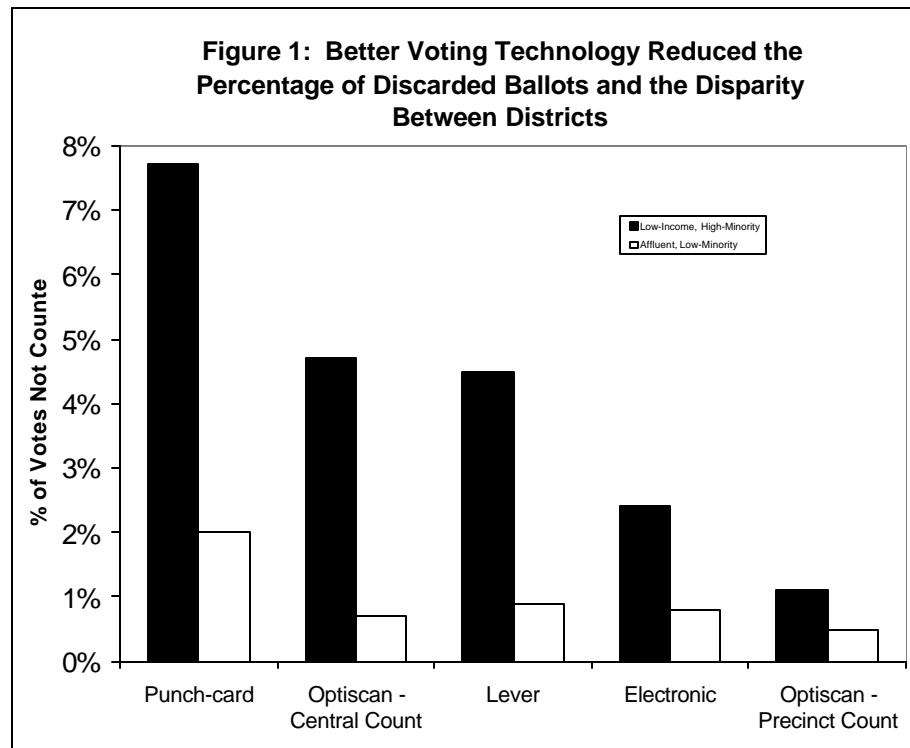
Rep. Calvin M. Dooley requested this report to investigate income and racial disparities in the undercount in the 2000 election, as well as rates of uncounted votes in Rep. Dooley's congressional district. Previous investigations of the 2000 elections have examined income and racial disparities in vote counting in specific states or urban areas, such as Florida and Chicago. This report, however, is the first analysis of the 2000 presidential election to investigate this issue on a national level and in the 20th Congressional District of California.

This report analyzes voting results from 40 congressional districts in 20 states. Twenty of the congressional districts examined in this report have high poverty rates and a high minority population, and 20 of the districts have low poverty rates and a small minority population. The report analyzes the percentage of uncounted votes for president in each of the 40 districts and compares the percentages of uncounted votes in the two types of districts. The report also investigates the impact of different voting machines on the undercount.

The report finds:

- \$ Voters in low-income, high-minority districts were significantly more likely to have their votes discarded than voters in affluent, low-minority districts.** In the 20 districts with high poverty rates and a high minority population, 4.0% of ballots cast were not counted in the presidential race. In the 20 affluent districts with a small minority population, only 1.2% of the ballots cast were not counted. On average, voters in low-income, high-minority districts were over three times as likely to have their votes for president discarded than voters in affluent, low-minority districts. Voters in some low-income, high-minority districts were 20 times as likely to have their votes discarded than voters in other congressional districts.
- \$ Better voting technology significantly reduced uncounted votes in low-income, high-minority districts.** Voters in low-income, high-minority districts had significantly higher rates of discarded ballots on older technologies like punch-card and lever machines than they did on newer technologies like electronic voting systems and precinct-counted optiscan machines. In low-income, high-minority districts, the undercount rate was 7.7% on punch-card machines, 4.7% on centrally counted optiscan machines, 4.5% on lever machines, 2.4% on electronic voting systems, and 1.1% on precinct-counted optiscan machines. The difference between centrally counted and precinct-counted optiscan machines is that precinct-counted optiscan machines can alert voters to errors and offer them an opportunity to revise their ballots.
- \$ Better voting technology significantly narrowed the disparity in uncounted votes between low-income, high-minority districts and affluent, low-minority districts.** Although low-income, high-minority districts had higher rates of uncounted votes than affluent, low-minority districts on all voting technologies, the size of the disparity between the two types of districts was much lower when the districts used modern voting technologies. When voters used punch-card machines, the rate of uncounted votes was 7.7% in low-income, high-minority

districts and 2.0% in affluent, low-minority districts, a disparity of 5.7 percentage points. But



when precinct-counted optiscan machines were used, the size of the disparity dropped to only 0.6 percentage points. See Figure 1.

\$ Technology significantly impacted undercount rates in Rep. Dooley=s district. Two types of machines were used in Rep. Dooley=s district, punch-card machines and precinct-counted optiscan machines. In areas using punch-card machines, 1.8% of the ballots cast were not counted in the presidential race. But in areas using optiscan machines, only 0.7% of the ballots were not counted. Voters in punch-card areas of Rep. Dooley=s district were over twice as likely to have their votes discarded as voters in optiscan areas.

I. INTRODUCTION

The 2000 election revealed that millions of ballots were not counted in the presidential election. Some of these ballots were not counted because voters intentionally choose not to vote for a candidate or intentionally voted for two candidates. More often, however, the ballots were discarded because the voting machine failed to accurately record the intention of the voter.¹ Experts estimate that 1.9% of all ballots cast in the 2000 election were not counted in the presidential race.² This is equivalent to almost two million votes for president.³ In a close election, these discarded ballots could mean the difference between victory and defeat.

Previous investigations of the 2000 election have found that low-income and minority voters in some areas were more likely to have ballots discarded in the 2000 presidential election than high-income and white voters. In Florida, one study found that African-American voters were ten times more likely than white voters to have their ballot rejected.⁴ In Chicago, a newspaper reported that one of every six ballots in black precincts did not show a vote for president, while in predominantly white, suburban precincts almost every vote was counted.⁵ And in Ohio, a newspaper reported that A[v]oters in Ohio's poorest counties are least likely to have their votes for president counted.⁶

To date, however, there has been no study of the 2000 election that examines income and racial disparities in vote counting at the national level.⁷

¹Stephan Knack and Martha Kropf, *Roll Off at the Top of the Ballot: Intentional Undervoting in American Presidential Elections* (Apr. 2001) (finding that, of ballots not showing a vote for president, two-thirds intended to vote for president).

²Georgia Secretary of State Cathy Cox, *The 2000 Election: A Wake-Up Call for Reform and Change*, Report to the Governor and Members of the General Assembly, 3 (Jan. 2001).

³*A Modern Democracy that Can't Count Votes; Special Report: What Happened in Florida is the Rule and Not the Exception. A Coast-to-Coast Study by the Times Finds Shoddy System that Can Only be Trusted When the Election Isn't Close*, Los Angeles Times (Dec. 11, 2000).

⁴United States Civil Rights Commission, *Voting Irregularities in Florida During the 2000 Presidential Election* (June 2001).

⁵*A Racial Gap in Voided Votes; Precinct Analysis Finds Stark Inequity in Polling Problems*, Washington Post (Dec. 27, 2000).

⁶*Many Votes Uncounted in Ohio's Poor Areas*, Columbus Dispatch (Dec. 17, 2000).

⁷One study examined uncounted ballots from the 1996 presidential election and found that counties with high percentages of African-American and Hispanic voters had higher rates of uncounted

ballots. Stephen Knack and Martha Kropf, *Invalidated Ballots in the 1996 Presidential Election: A County-Level Analysis* (May 2001). But that study did not examine election results from the 2000 election. Moreover, that study examined only county-level data, which masks the often significant demographic differences within large, urban counties.

Rep. Calvin Dooley requested this investigation to fill this void. Rep. Dooley requested that the Special Investigations Division of the minority staff of the Committee on Government Reform investigate on a national basis whether voters in low-income, high-minority districts had their votes discarded in the 2000 election at higher rates than voters in affluent, low-minority districts. Rep. Dooley also asked the Special Investigations Division to investigate whether better voting technologies reduced the rate of uncounted ballots. Finally, Rep. Dooley asked the Special Investigations Division to examine the rates of uncounted ballots in Rep. Dooley's congressional district, the 20th Congressional District of California.

This report presents the results of this investigation.⁸

II. METHODOLOGY

To conduct this investigation, the Special Investigations Division obtained detailed results from the 2000 election from counties within 40 congressional districts in 20 states. The 40 congressional districts include 20 districts with high poverty rates and a high minority population and 20 districts with high median incomes and a low minority population. A variety of different voting technologies were used in these congressional districts, including punch-card ballots, lever machines, optical scanning equipment, and electronic voting systems. The report analyzes the voting results in these congressional districts.

A. Selection of Congressional Districts

This report analyzes voting results by congressional district, not by counties as in other studies. The advantage of analyzing voting results by congressional districts is that congressional districts are smaller than large counties. Counties like Los Angeles County in California or Cook County in Illinois can comprise up to 15 congressional districts and can contain both very poor and very affluent areas. The size and diversity of large counties means that a county-level analysis could mask important differences among areas with different economic and racial demographics.

⁸Several other members of Congress have requested similar investigations of income and racial disparities in the undercount in the 2000 election nationally and in their districts. These members have also received reports on the results of their investigations.

To identify districts with high poverty rates and a high minority population, information was obtained from the Congressional Research Service (CRS) on race and income in congressional districts. This was used to identify majority minority congressional districts, which are districts where less than half of the population consisted of non-hispanic whites. There are 64 such districts in the United States, and 20 of these were selected for analysis. The majority minority districts that were selected for analysis were the 20 majority minority districts with the highest percentage of the population living in poverty, except that to preserve geographic diversity in the sample, no more than two congressional districts from any one state were selected. This resulted in a sample of 20 districts in 14 states.⁹

To identify affluent districts with a low minority population, data was also obtained from CRS. This data was used to identify congressional districts where more than 70% of the population consisted of non-hispanic whites. There are 326 such districts in the United States, and 20 of these were selected for analysis. The low-minority districts that were selected for analysis were the 20 districts with the highest median household income according to 1990 census data, except that to preserve geographic diversity in the sample, no more than two congressional districts from any one state were selected. This resulted in a sample of 20 districts in 13 states.

In total, undercount rates in 40 districts in 20 states were analyzed in this report. These 40 districts are listed in Appendix 1.

Voting results were not available for one congressional district. In this case, the district was not included in the analysis, and a new congressional district that met the selection criteria was substituted.¹⁰

B. Development of the Voting Results Database

The 40 congressional districts examined in this report are part of 150 different counties. Detailed election results were obtained from each of these counties, including the type of voting machines used in the county, the total number of ballots cast, the number of votes for each presidential candidate, and, if it was available, the number of overvotes and undervotes. The incidence of ballots that did not show a vote for president was calculated by subtracting the total number of votes for presidential candidates from the total number of ballots cast and then dividing that number by the total

⁹The CRS data was based on 1990 census data, the most recent data then available, and reflects the congressional district boundaries that were created after redistricting in 1992. Two congressional districts, the 2nd District of Georgia and the 3rd District of Florida, were the subject of ongoing redistricting challenges, and the CRS data no longer reflects their exact boundaries. These districts continue to have large minority populations and high poverty rates and were retained in the study.

¹⁰The 2nd District of Mississippi was originally selected but ultimately not included in the study because of a lack of available data. The 1st District of Illinois was selected in its place.

number of ballots cast.¹¹

If counties were wholly within a congressional district, voting results were obtained for the entire county. However, if counties were split, with part of the county in the congressional district and part of the county outside the district, voting results were obtained at the precinct level.¹² In this case, the report included only the results from the precincts that were within the congressional district.

In some cases, data was not available for counties that constitute a small portion of the congressional district. In these cases, the data was not included in the analysis.¹³

In some cases, the data appeared to have obvious errors, such as precinct data obtained from county election officials that indicated that more votes were counted for president than ballots cast. In these cases, the precinct data was excluded from the database. A total of less than 2% of the ballots in the database were affected by these errors and excluded from the final analysis.

III. FINDINGS

Over nine million ballots were cast in the 40 congressional districts in the 2000 election. Overall, over 200,000 ballots -- 2.2% of all ballots cast in these districts -- were not counted in the presidential race. An analysis of the votes in these congressional districts reveals significant economic and racial disparities in the incidence of vote undercounts.

A. Voters in Low-Income, High-Minority Districts Were Significantly More Likely to Have Their Votes Discarded Than Voters in Affluent, Low-Minority Districts

1. Voters in Low-Income, High-Minority Districts Were Over Three Times As Likely To Have Their Votes Discarded Than Voters in Affluent,

¹¹The report examined only votes cast in the presidential race. Accordingly, the terms Auncounted@ or Adiscarded@ ballots in this report refer to ballots that did not show a vote for president.

¹²In some cases, absentee ballots were not available at the precinct level and hence were excluded from the analysis.

¹³In every instance except for one, less than 15% of the population of the congressional district resided in the counties for which the data was unavailable. The one exception was Jefferson Parish, Louisiana, which contains almost a third of the population of the 2nd Congressional District of Louisiana. Data from Jefferson Parish was not included in the report because appropriate precinct-level data was not available. However, the percentage of ballots not showing a vote for president in Jefferson Parish was nearly identical to the percentage of ballots not showing a vote for president in the rest of the 2nd District, which indicates that it is unlikely that the exclusion impacted the analysis.

Low-Minority Districts

Almost 3.5 million ballots were cast in the 20 districts with high poverty rates and a high minority population in the 2000 election. Almost 140,000 of these ballots were not counted in the presidential race. This is an undercount rate of 4.0%.

There were significantly more ballots cast in the 20 affluent districts with a low minority population, but the number of ballots that were not counted was much smaller. A total of over 5.7 million ballots were cast in these affluent districts, and 67,000 ballots were not counted in the presidential race. This is an undercount rate of 1.2%. Table 1.

Table 1: Voters in Districts with High Poverty Rates and a High Minority Population Were More Likely to Have their Ballots Not Counted than Voters in Affluent Districts with a Low Minority Population

District Type	Number of Ballots Cast	Number of Uncounted Ballots	% of Uncounted Ballots
Low-Income, High-Minority	3,469,146	139,938	4.0%
Affluent, Low-Minority	5,775,679	67,031	1.2%
Total	9,244,825	206,969	2.2%

The data show that there is a significant discrepancy between the percentage of uncounted ballots in districts with high poverty rates and a high minority population and the percentage of uncounted ballots in affluent districts with a small minority population. Overall, voters in low-income, high-minority districts were over three times as likely to have their vote for president discarded than voters in affluent districts with a small minority population.

2. Voters in Some Low-Income, High-Minority Districts Were Twenty Times More Likely to Have Their Votes Discarded Than Voters in Other Districts

The two congressional districts with the highest percentage of uncounted ballots were the 1st District of Illinois and the 17th District of Florida. In each of these districts, 7.9% of the ballots cast -- almost one in twelve ballots -- were not counted in the presidential race. In six other congressional districts -- the 3rd District of Florida, the 7th District of Illinois, the 6th District of South Carolina, the 16th District of New York, the 1st District of North Carolina, and the 2nd District of Georgia -- more than 5% of ballots were not counted in the presidential race. All of these congressional districts were districts that have high poverty rates and a high minority population.

The percentage of uncounted ballots in the two districts with the highest percentage of uncounted ballots was over six times as high as the percentage of uncounted ballots in the average affluent district with a low minority population. The affluent district with a low minority population that had the lowest percentage of uncounted ballots for president is the 3rd District of Minnesota, which had an undercount rate of 0.36%. The percentage of uncounted ballots in the 1st District of Illinois and the

17th District of Florida was twenty times higher than the percentage of uncounted ballots in the 3rd District of Minnesota.

3. **The Ten Congressional Districts with the Highest Percentage of Uncounted Votes Were Low-Income, High-Minority Districts**

The ten congressional districts with the highest rates of uncounted ballots were all districts with high poverty rates and a high minority population. Table 2.

The ten congressional districts with the lowest rates of uncounted ballots all had less than 1% of ballots uncounted. Eight of these ten districts were affluent districts with a low minority population. The five congressional districts in this analysis with the lowest percentage of uncounted ballots were the 7th District of Alabama (0.3%), 3rd District of Minnesota (0.4%), the 2nd District of Louisiana (0.5%), the 5th District of Maryland (0.5%), and the 13th District of Pennsylvania (0.6%). Appendix 1 contains detailed information on the number of ballots cast and the number of uncounted ballots in each congressional district.

Table 2: The Ten Congressional Districts with the Highest Percentage of Uncounted Ballots Had High Poverty Rates and a High Minority Population.				
Congressional District	Low-Income, High-Minority Population	Total Ballots Cast	Total Ballots Counted	% of Ballots Not Counted
IL-1	Yes	241,742	222,616	7.9%
FL-17	Yes	157,946	145,522	7.9%
FL-3	Yes	216,938	200,000	7.8%
IL-7	Yes	228,742	211,440	7.6%
SC-6	Yes	177,050	165,537	6.5%
NY-16	Yes	141,800	133,402	5.9%
NC-1	Yes	179,320	169,128	5.7%
GA-2	Yes	191,188	181,194	5.2%
NY-15	Yes	181,906	172,951	4.9%
CA-33	Yes	80,333	76,762	4.4%

B. **Better Technology Significantly Reduced the Percentage of Uncounted Votes Cast by Voters in Low-Income, High-Minority Districts**

There were six different types of voting equipment in use in the 40 congressional districts:

(1) punch-card machines, which require the voter to select a candidate by punching holes in a paper computer card that is later fed through a computer reader;

- (2) lever machines, which require a voter to flip a lever on the voting machine to select a candidate;
- (3) paper balloting, where the voter marks his or her choice on a ballot that is later hand-counted;
- (4) precinct-counted optiscan machines, which require a voter to use a special writing instrument to fill in an oval or otherwise mark a candidate's name and then allow the voter to insert the ballot into a counting machine that tells the voter if the ballot is spoiled;
- (5) centrally counted optiscan machines, which are similar to precinct-counted optiscan machines except that there is no counting machine at the polling place that informs voters if they have overvoted;¹⁴ and
- (6) electronic systems, also called direct recording electronic (DRE), which allow the voter to select candidates by pushing buttons, or touching a screen, on an electronically posted ballot.

Voters in low-income, high-minority districts had significantly higher rates of discarded ballots on older technologies like punch-card and lever machines than they did on newer technologies like electronic voting systems and precinct-counted optiscan machines. In low-income, high-minority districts, the undercount rate was 7.7% on punch-card machines, 4.7% on centrally counted optiscan machines, 4.5% on lever machines, 2.4% on electronic voting systems, and 1.1% on precinct-counted optiscan machines. This means that voters using punch-card machines were seven times as likely to have their ballot discarded as voters using precinct-counted optiscan machines that gave them an opportunity to correct errors.

Some low-income, high-minority districts were able to achieve very low rates of uncounted ballots. In Alabama's 7th Congressional District, 31% of the population lives below the poverty line and 68% of the population is a member of a racial minority. Nevertheless, the district was able to obtain the lowest rate of uncounted ballots among the 40 congressional districts through the use of precinct-counted optiscan machines.¹⁵ In this district, only 0.3% of ballots did not show a vote for president, a lower proportion of uncounted ballots than any other district.

Similarly, Louisiana's 2nd Congressional District had one of the lowest rates of uncounted ballots. Voters in this district use an AAVC Advantage® electronic voting machine. This machine does

¹⁴Twelve counties had precinct-counted optiscan machines that were not programmed to inform voters of a spoiled ballot. Because they did not include the opportunity for voters to correct errors, this analysis classified them as centrally counted optiscan machines.

¹⁵Small portions of the 7th Congressional District in Alabama are part of Tuscaloosa and Montgomery counties. Results from these two counties were not included in this report because the data was unavailable. Tuscaloosa County votes on electronic voting machines, and Montgomery County votes on centrally counted optiscan machines.

not allow voters to vote for more than one candidate, and it flashes a light above all of the offices until the voter casts a vote in that race. In this district, only 0.5% of ballots did not show a vote for president.

The finding that improved technology can dramatically reduce undercount rates is consistent with the findings in another recent study by the Special Investigations Division of the minority staff of the Government Reform Committee. That report found that Detroit, the nation's poorest city, successfully reduced uncounted ballots by replacing punch-card machines with newer technology and engaging in extensive voter education efforts.¹⁶ In 1996, 3.3% of all ballots in Detroit did not show a vote for president, which was 50% higher than the national average. In 2000, after upgrading its voting machines to precinct-counted optiscan machines and engaging in voter education, only 1.1% of ballots in Detroit did not show a vote for president, which was 50% below the national average.

C. **Better Technology Significantly Reduced the Disparity in Uncounted Votes Between Low-Income, High-Minority Districts and Affluent, Low-Minority Districts**

Although low-income, high-minority districts had higher rates of uncounted votes than affluent, low-minority districts on all voting technologies, the disparities between the two types of districts were much lower in absolute terms when the districts used modern voting technologies. When voters used punch-card machines, the rate of uncounted votes was 7.7% in low-income, high-minority districts and 2.0% in affluent, low-minority districts -- a disparity of 5.7 percentage points. The size of the disparity was 4.0 percentage points on centrally counted optiscan machines, 3.6 percentage points on lever machines, and 1.6 percentage points on electronic machines. The lowest disparity occurred when voters used precinct-counted optiscan machines. When voters used these machines, the rate of uncounted votes was 1.1% in low-income, high-minority districts and 0.5% in affluent, low-minority districts -- a disparity of only 0.6 percentage points.¹⁷ See Table 3.

¹⁶Minority Staff Report of the House Committee on Government Reform, *Election Reform in Detroit: New Voting Technology and Increased Voter Education Significantly Reduced Uncounted Ballots* (April 5, 2000).

¹⁷In addition to a reduction in the absolute size of the disparity, there was also a reduction in the relative size of the disparity. On punch-card machines, voters in low-income, high minority districts were 3.85 times as likely as voters in affluent, low-minority to have their ballots discarded. On precinct-counted optiscan machines, voters in low-income, high minority districts were 2.20 times as likely as voters in affluent, low-minority districts to have their ballots discarded.

Table 3: Better Voting Technology Reduced the Disparity Between Uncounted Votes in Low-Income, High-Minority Districts and Affluent, Low-Minority Districts.

Machine Type	Voters in Low-Income, High-Minority Districts		Voters in Affluent, Low-Minority Districts		Disparity
	Ballots Cast	% Uncounted	Ballots Cast	% Uncounted	% Points
Punch-card	992,627	7.7%	1,821,709	2.0%	5.7
Centrally Counted Optiscan	269,975	4.7%	633,047	0.7%	4.0
Lever	525,641	4.5%	1,402,909	0.9%	3.6
Electronic Voting	686,730	2.4%	902,009	0.8%	1.6
Precinct-Counted Optiscan	883,275	1.1%	757,183	0.5%	0.6
Paper	8,859	1.0%	97	--	--
Mixed	102,039	1.0%	258,725	0.8%	--
All Ballots	3,469,146	4.0%	5,775,679	1.2%	2.8

D. Voters in Rep. Dooley=s District Who Used Punch-Card Machines Were Over Twice As Likely to Have Their Votes Discarded As Voters in the District Who Used Better Technology

Rep. Dooley represents the 20th Congressional District of California, which includes Kings County and parts of Fresno, Kern, and Tulare Counties in the San Joaquin Valley.

A total of 122,210 ballots were cast in the 2000 election in the 20th Congressional District. Overall, 1,110 of these votes -- 0.9% of all ballots cast -- were not counted in the presidential race.

There was a large disparity between the percentage of uncounted ballots in Kern County, which uses punch-card machines, and the percentage of uncounted ballots in Fresno, Kings, and Tulare Counties, which use precinct-counted optiscan machines. In the parts of Kern County located in the 20th Congressional District, 1.8% of the 25,844 ballots cast were not counted in the presidential race. In the parts of Fresno, Kings, and Tulare Counties located in the 20th Congressional District, 0.7% of the 96,366 ballots cast were not counted. Voters in the 20th Congressional District who voted on punch-card machines were over twice as likely to have their ballot discarded as voters in the district who voted on precinct-counted optiscan machines.

IV. CONCLUSION

This report investigated election results from the 2000 election from 40 congressional districts around the country. It finds that districts with high poverty rates and a high minority population had significantly higher rates of uncounted ballots than affluent, low-minority districts. In addition, the report finds that the percentage of uncounted ballots in low-income, high-minority districts was reduced by up to 80% when improved voting technology was used to count ballots. Finally, the report finds that voters in Rep. Dooley=s district who used punch-cards were over twice as likely to have their votes discarded as voters in the district who used optiscan machines.

Appendix I: Results by District

District	District Type	Total Ballots Cast	Total Counted Votes for President	Percentage Uncounted	Type of Machine(s) Used
AL-7	Low-Income, High-Minority	160,816	160,334	0.3%	Optiscan, Central and Precinct Count
AZ-2	Low-Income, High-Minority	129,830	126,822	2.3%	Optiscan, Precinct Count; Punch-card
CA-10	Affluent, Low-Minority	317,860	315,145	0.9%	Optiscan, Central Count; Punch-card
CA-20	Low-Income, High-Minority	122,210	121,100	0.9%	Optiscan, Central Count; Punch-card
CA-33	Low-Income, High-Minority	80,333	76,762	4.4%	Punch-card
CA-47	Affluent, Low-Minority	290,552	288,697	0.6%	Punch-card
CT-4	Affluent, Low-Minority	231,533	229,651	0.8%	Lever
CT-5	Affluent, Low-Minority	245,212	243,441	0.7%	Lever
FL-3	Low-Income, High-Minority	216,938	200,000	7.8%	Optiscan, Central and Precinct Count; Punch-card
FL-17	Low-Income, High-Minority	157,946	145,522	7.9%	Punch-card
GA-2	Low-Income, High-Minority	191,188	181,194	5.2%	Optiscan, Central and Precinct Count*; Punch-card; Lever
GA-6	Affluent, Low-Minority	372,243	365,295	1.9%	Optiscan, Central Count*; Punch-card
IL-1	Low-Income, High-Minority	241,742	222,616	7.9%	Punch-card
IL-7	Low-Income, High-Minority	228,742	211,440	7.6%	Punch-card
IL-10	Affluent, Low-Minority	254,665	245,884	3.4%	Punch-card
IL-13	Affluent, Low-Minority	317,669	311,145	2.1%	Punch-card
LA-2	Low-Income, High-Minority	182,094	181,221	0.5%	Electronic
MD-5	Affluent, Low-Minority	264,784	263,332	0.5%	Lever; Optiscan, Precinct Count
MD-8	Affluent, Low-Minority	287,093	284,316	1.0%	Punch-card
MI-11	Affluent, Low-Minority	310,821	308,356	0.8%	Optiscan, Precinct Count; Punch-card; Paper
MI-14	Low-Income, High-Minority	163,130	161,386	1.1%	Optiscan, Precinct Count, Punch-card
MI-15	Low-Income, High-Minority	134,970	133,391	1.2%	Optiscan, Precinct Count; Lever
MN-3	Affluent, Low-Minority	321,499	320,357	0.4%	Optiscan, Central and Precinct Count
MO-2	Affluent, Low-Minority	300,083	290,778	3.1%	Punch-card
NC-1	Low-Income, High-Minority	179,320	169,128	5.7%	Optiscan, Central Count*; Electronic, Lever
NJ-11	Affluent, Low-Minority	376,147	372,895	0.9%	Electronic; Lever; Punch-card
NJ-12	Affluent, Low-Minority	261,943	260,169	0.7%	Electronic; Lever
NY-3	Affluent, Low-Minority	275,562	272,851	1.0%	Lever
NY-4	Affluent, Low-Minority	252,529	249,530	1.2%	Lever
NY-15	Low-Income, High-Minority	181,906	172,951	4.9%	Lever
NY-16	Low-Income, High-Minority	141,800	133,402	5.9%	Lever
PA-1	Low-Income, High-Minority	112,051	110,153	1.7%	Lever
PA-13	Affluent, Low-Minority	288,727	286,987	0.6%	Electronic
SC-6	Low-Income, High-Minority	177,050	165,537	6.5%	Optiscan, Central and Precinct Count; Punch-card; Electronic;
TX-3	Affluent, Low-Minority	274,570	272,440	0.8%	Optiscan, Central Count; Punch-card
TN-9	Low-Income, High-Minority	344,182	336,755	2.2%	Electronic

TX-15	Low-Income, High-Minority	157,067	155,399	1.1%	Optiscan, Central Count*; Lever; Paper
TX-27	Low-Income, High-Minority	165,831	164,095	1.0%	Optiscan, Central and Precinct Count*
VA-8	Affluent, Low-Minority	273,462	270,629	1.0%	Electronic
VA-11	Affluent, Low-Minority	258,725	256,750	0.8%	Electronic; Lever
Total		9,244,825	9,037,815	2.2%	

* At least one county in these districts used precinct-counted optiscan machines that were not programmed to inform voters of a spoiled ballot. Because they did not include the opportunity for voters to correct errors, this analysis classified them as centrally counted optiscan machines.